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EXAMINER	
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ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,847	GENDRON ET AL.	
	Examiner	Art Unit	
	LaShanya R Nash	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/4/01, 7/9/02
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-30 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,7,9-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinsky et al. (US Patent 5,655,084), in view of Tian et al. (US Patent 5,671,353), and further in view of Yang et al. (US Patent 5,465,331) hereinafter referred to as Pinsky, Tian, and Yang respectively.

In reference to claim 1, Pinsky discloses a method for distributing medical images and other associated data across a wide area network. Specifically, the method comprises steps for routing the aforementioned medical information to the appropriate resources (column 1, lines 44-60). Pinsky further discloses the medical image routing method to compare the steps of: receiving a network communication (i.e. packet) including an asset (i.e. study) having pixel data (i.e. digital image) and non-pixel data (i.e. associated study information), (column 2, line 65 to column 3, line 23; column 3, lines 58-67; column 6, lines 48-67; and Figure 1); storing the asset, (column 3, line 57 to column 4, line 7); and

forwarding the storage asset, (column 4, lines 7-33). However, Pinsky fails to disclose validating the non-pixel data, and forwarding the storage asset upon validating the non-pixel data. Nonetheless, this would have been an obvious modification to the aforementioned method to one of ordinary skill in the art at the time of the invention, as further evidenced by Tian.

In an analogous art, Tian discloses a method for validating the non-pixel data of medical image assets (i.e. DICOM messages), in order to "facilitate the transmission on digitized medical imagery ", (column 1, lines 43-67 and column2, lines 40-60). Tian further discloses that the method entails forwarding the asset upon validating the non-pixel data, (column 5, lines 13-21). One of ordinary skill in the art would have been motivated to incorporate the aforementioned limitations into the medical image routing method as disclosed by Pinsky, so as to ensure that transmitted assets (i.e. DICOM messages) are compatible with the local environment picture archival system and thereby improving reliability of the distribution method, (Tian column 5, lines 6-13). Pinsky and Tian fail to explicitly disclose storing and validating the non-pixel data in parallel. Nonetheless, concurrently storing and processing network communications (i.e. packets) was well known in the art at the time of the invention, as further evidenced by Yang. Therefore the limitation would have been an obvious modification to the aforementioned method to a person of ordinary skill in the art.

In another analogous art, Yang discloses a routing method involving storing and processing a network communication in parallel to subsequently forward the information throughout different networks, (column 1, lines 48-63 and

column 2, lines 51-62). One of ordinary skill in the art would have been so motivated to implement this modification to the medical image routing method in order to concurrently execute command and data trafficking routing tasks thereby improving system efficiency, (Yang column 1, lines 9-13).

In reference to claim 12, Pinsky further discloses the aforementioned medical image method to comprise the steps of: receiving a number of packets with multiple software modules listening to a single communication socket of a TCP/IP based network, wherein the packets contain a storage asset (i.e. study) having pixel data (i.e. digital image) and non-pixel data (i.e. associated study information), (column 2, line 65 to column 3, line 23; column 3, lines 58-67 column 6, lines 59-67; column 7, lines 35-49;column 8, lines 51-54; column 9, lines 15-20; column 11, lines 31-36); selectively processing the non-pixel data and the pixel data with software modules to store the asset as the packets are received, (column 3, line 57 to column 4, line 7; column 59-67; and column 12, lines 12-35); and forwarding the storage asset to a network destination prior to receiving all of the pixel-data, (column 4, lines 7-33; column 7, lines 1-56; and column 6, lines 59-67). However, Pinsky does not show a separate software module to validate the non-pixel data, and forwarding the storage asset upon validating the non-pixel data. Nonetheless, these limitations would have been obvious modifications to the aforementioned medical image routing method for one of ordinary skill in the art at the time of the invention, as evidenced by Tian.

In an analogous art, Tian discloses a method for validating the non-pixel data of medical image assets (i.e. DICOM messages) with a software module, in order to "facilitate the transmission on digitized medical imagery ", (column 1, lines 43-67 and column 2, lines 40-60). Tian further discloses that the method entails forwarding the asset upon validating the non-pixel data, (column 5, lines 13-21). One of ordinary skill in the art would have been motivated to incorporate the aforementioned limitations into the medical image routing method as disclosed by Pinsky, so as to ensure that transmitted assets (i.e. DICOM messages) are compatible with the local environment picture archival system and thereby improving reliability of the distribution method, (Tian column 5, lines 6-13). Pinsky and Tian fail to explicitly disclose storing and validating the non-pixel data in parallel. Nonetheless, concurrently storing and processing network communications (i.e. packets) was well known in the art at the time of the invention, as further evidenced by Yang. Therefore the limitation would have been an obvious modification to the aforementioned method to a person of ordinary skill in the art.

In another analogous art, Yang discloses a routing method involving storing and processing a network communication in parallel to subsequently forward the information throughout different networks, (column 1, lines 48-63 and column 2, lines 51-62). One of ordinary skill in the art would have been so motivated to implement this modification to the medical image routing method in order to concurrently execute command and data trafficking routing tasks thereby improving system efficiency, (Yang column 1, lines 9-13).

In reference to claim 7, Pinsky, Tian, and Yang show the medical image routing method wherein validating the non-pixel data includes issuing a reconciliation event (i.e. warning) when the non-pixel data is invalid, (Tian column 5, lines 16-21 and column 10, lines 21-29).

In reference to claim 9, Pinsky, Tian, and Yang show the medical image routing method wherein forwarding the network communication upon validating the asset comprises initiating an outbound network communication prior to receiving all of the pixel data (Pinsky column 6, lines 59-65 and Tian column 5, lines 16-21).

In reference to claim 10, Pinsky, Tian, and Yang show the medical image routing method wherein receiving a number of packets from a network, and where storing the pixel data and validating the non-pixel data commences after receiving a first portion of the packets, (Pinsky column 3, line 57 to column 4, line 7;column 6, lines 59-65; and Tian column 5, lines 16-21 and column 10, lines 21-29).

Claims 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haworth et al. (US Patent 6,661,228), in view of Flaig et al. (US Patent 5,105,424), further in view of Tian et al. (US Patent 5,671,353),

and further in view of Yang et al. (US Patent 5,465,331) hereinafter referred to as Haworth, Flaig, Tian, and Yang respectively.

In reference to claim 16, Haworth discloses a medical imaging system that employs integrated routers in order to facilitate data transmission within the multi--server system, (column 1, lines 50-66; column 3, lines 22-28; and Figure 4). Haworth explicitly discloses the router to comprise: a computer-readable medium (i.e. storage device) storing routing information (i.e. registration table), (column 2, lines 21-35; column 20, lines 40-55; column 11, lines 1-25; and Figure 6); and a storage manager software module (i.e. data store software) that receives a network communication including an asset having pixel data (i.e. medical image) and non-pixel data (i.e. associated patient information), and stores the asset to a storage device, (column 2, lines 52-61; column 4, lines 7-20; column 5, lines 51-64; and column 10, lines 56-67); and a routing module (i.e. router software) that forwards the storage asset to a network destination in accordance with the routing information, (column 10, lines 40-55 and column 11, lines 4-25). However, Haworth does not disclose expressly that the routing information maps destinations to routes within a network. Nonetheless, mapping destinations to routes was well known in the art the time of the invention, as further evidenced by Flaig. Therefore, this limitation would have been an obvious modification to the aforementioned router to one of ordinary skill in the art at the time of the invention.

In an analogous art, Flaig discloses a router that retrieves the route to a specified destination from a map, and subsequently transmits the network

communication (i.e. packet) to adjacent nodes according to the determined route, (abstract and column 5, lines 9-20). One of ordinary skill in the art would have been motivated to implement this modification into the aforementioned router as disclosed by Haworth, in order to allow the processor in the router to "provide good performance with a minimum of silicon area on the chip consumed thereby", (Flaig column 4, lines 14-19). However, Haworth and Flaig fail to disclose a validation software module that validates the non-pixel data, and forwards the storage asset upon the validation of the non-pixel data. Nonetheless, these limitations would have been obvious modifications to the aforementioned router for one of ordinary skill in the art at the time of the invention, as evidenced by Tian.

In another analogous art, Tian discloses a software module for validating the non-pixel data of medical image assets (i.e. DICOM messages), in order to "facilitate the transmission on digitized medical imagery ", (column 1, lines 43-67 and column 2, lines 40-60). Tian further discloses that the software supports forwarding the asset upon validating the non-pixel data, (column 5, lines 13-21). One of ordinary skill in the art would have been motivated to incorporate the validation software module into the aforementioned router as disclosed by Haworth, so as to ensure that assets (i.e. DICOM messages) are in conformance with the DICOM standard for proper transmission, thereby increasing the reliability of router operation (Tian column 5, lines 6-13). The references fail to explicitly disclose storing and validating the non-pixel data in parallel. Nonetheless, concurrently storing and processing network communications (i.e.

packets) was well known in the art at the time of the invention, as further evidenced by Yang. Therefore the limitation would have been an obvious modification to the aforementioned method to a person of ordinary skill in the art.

In another analogous art, Yang discloses a routing apparatus that stores and processes a network communication in parallel to subsequently forward the information throughout different networks, (column 1, lines 48-63 and column 2, lines 51-62). One of ordinary skill in the art would have been so motivated to implement this modification to the router as disclosed by Haworth, in order to concurrently execute command and data trafficking routing tasks thereby improving system efficiency, (Yang column 1, lines 9-13).

In reference to claim 21, Haworth, Flaig, Tian, and Yang show the router wherein validating the non-pixel data includes issuing a reconciliation event (i.e. warning) when the non-pixel data is invalid, (Tian column 5, lines 16-21 and column 10, lines 21-29).

Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnellinger et al. (US Patent 5,642,513), in view of Fendick et al. (US Patent 6,252,857), hereinafter referred to as Schnellinger and Fendick respectively.

In reference to claim 23, Schnellinger discloses an method that supports automated routing of digital medical imagery to a plurality of destinations

throughout a network, (column 1,lines 54-60;column 3,lines 9-20; and Figure 3). Schnellinger explicitly discloses the Autorouter method to comprise: storing routing information (i.e. Multiple AutoRouting Rule) mapping destinations to routes within a network, (column 3, lines 25-45 and column 5, line 63 to column 6, line 10); receiving a network communication comprising destination information (i.e. ACR-NEMA image message header) and a storage asset (i.e. digitized medical image), (column 3, line 67 to column 4, line 13;column 4, line 40-46; and column 4, lines 59-63); storing a plurality of outbound network communications in a plurality of queues, wherein the outbound network communications include references (i.e. image transmission request) to the storage asset; and selecting a plurality of routes from routing information and forwarding the network communications according to the selected routes, (column 9, lines 8-39; column 6, lines 1-10; and Figure 3-items 14A-15A). Although Schnellinger discloses substantial features to the claimed invention, the reference fails to explicitly disclose the forwarding the network communications to selected routes in parallel. Nonetheless, this modification to the Autorouter method would have been obvious to one of ordinary skill in the art at the time of the invention, as further evidenced by Fendick.

In an analogous art, Fendick discloses a method for simultaneous transmission of information to multiple destinations or "multicasting", (column 2, lines 50-56 and Figure 2). One of ordinary skill in the art would have been motivated to implement this modification into the Autorouter method in order to support the concurrent transmission of medical data to a plurality of destinations

(e.g. hospital areas, off-site facilities), thereby increasing system flexibility and ease of use, (Schnellinger column 5, lines 30-48).

In reference to claim 25, Schnellinger and Fendick show the Autorouter method to further comprise: storing a set of rules (Multiple Autorouting Rule), (Schnellinger column 3, lines 25-45); and comparing at least a portion of the data to the set of routing rues, (Schnellinger column 5, line 63 to column 6, line 10); and selecting a plurality of routes from the routing information based on the destination information and a result of the comparison, (Schnellinger column 3, line 67 to column 4, line 13; column 9, lines 8-39; and column 6, lines 1-10).

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinsky, Tian, and Yang as applied to the claims above, and further in view of Cawley (US Patent 5,361,334), hereinafter referred to as Cawley.

In reference to claim 2, Pinsky, Tian, and Yang show a medical image routing method wherein receiving the network communication comprises: storing the asset while receiving the network communication, (Pinsky column 3, line 67 to column 4, line 7); instantiating a validation software module and a storage manager software module, wherein the validation software module and the storage manager software module receive the asset in parallel, (Pinsky column 12, lines 12-35; Tian column 1, line 52 to column 2, line 40; and Yang column 1, lines 48-63). However, the references do not show storing and receiving the asset in a ring buffer. Nonetheless, storing information in a ring buffer was well

known in the art at the time of the invention, as further evidenced by Cawley. Therefore this would have been an obvious modification to the aforementioned medical image routing method to one of ordinary skill in the art at the time of the invention.

In an analogous art, Cawley discloses a method for routing network communication (i.e. packets) that employs ring buffers for receiving and storing the data, and subsequently forwarding this data to the intended destination (column 2, line 45 to column 3, line 14). One of ordinary skill in the art would have been motivated to incorporate a ring buffer in the aforementioned method, so as to prevent data collision and gridlock during transmission, thereby increasing network efficiency (Cawley column 2, line 60-65 and column 3, lines 2-6).

In reference to claim 3, Pinsky, Tian, Yang, and Cawley show the medical image routing method to further comprise: receiving the network communication with multiple software modules; and storing the asset and validating the non-pixel data with different software modules (Pinsky column 11, lines 31-36 and Tian column 1, line 52 to column 2, line 40).

Claims 4-6,8, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinsky, Tian, and Yang as applied to the claims above, and further in view of Johnson (US Patent 6,351,547), hereinafter referred to as Johnson.

In reference to claims 4 and 13, Pinsky, Tian, and Yang fail to explicitly show the medical image method wherein the non-pixel data comprises medical data and pixel data comprises medical images. Nonetheless, these limitations were well known in the art at the time of the invention, as further evidenced by Johnson. Therefore, this would have been an obvious modification to the aforementioned method.

In an analogous art, Johnson shows a method for formatting medical digital images to conform to communications standards in which pixel data comprises medical digitized images and non-pixel data comprises medical data (i.e. attribute information), (column 4, lines 24-36 and column 2, lines 9-15). One of ordinary skill in the art would have been motivated to accordingly modify the aforementioned method, so as to increase the speed and reliability of connecting medical imaging devices to remote locations via a network (Johnson column 5, lines 1-6).

In reference to claims 5 and 14, Pinsky, Tian, Yang, and Johnson show the medical image routing method wherein medical asset data comprises patient information, session information, and study information (Johnson column 4, lines 24-36).

In reference to claims 6 and 15, Pinsky, Tian, Yang, and Johnson show the medical image routing method wherein validating the non-pixel data comprises syntactically and semantically validating a number of DICOM tags

within the non-pixel data (Tian column 5, line 65 to column 6, line 5 and Johnson column 4, lines 24-36 and column 2, lines 20-27).

In reference to claim 8, Pinsky, Tian, and Yang do not show the medical image routing method wherein storing the asset comprises buffering the storage asset to a local storage medium. However, this would have been an obvious modification to the aforementioned method to one of ordinary skill in the art at the time of the invention, as further evidenced by Johnson.

In an analogous art, Johnson shows a method for formatting medical digital images to conform to communications standards in which an asset (i.e. image) is buffered (i.e. queued) to a local storage medium (i.e. hard disk), (column 3, lines 14-26). One of ordinary skill in the art would have been motivated to accordingly modify the aforementioned method, so as to increase the speed and reliability of connecting medical imaging devices to remote locations via a network (Johnson column 5, lines 1-6).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pinsky, Tian, and Yang as applied to the claims above, further in view of Wahle (Secure Inter-Institutional Image Communication by using DICOM-DICOM Gateways-[retrieved IEEE database]), and further in view of Fendick (US Patent 6,252,857) , hereinafter referred to as Wahle and Fendick respectively.

In reference to claim 11, Pinsky, Tian, and Yang show substantial features of the claimed invention. However, the references do not show the medical image routing method to further comprise forwarding the network communication to plurality of storage systems. Nonetheless, this would have been an obvious modification to the aforementioned method for one of ordinary skill in the art at the time of the invention, as further evidenced by Wahle.

In an analogous art, Wahle discloses a method for transporting network communications (i.e. medical images and patient related data) to various storage systems (i.e. inter-institutional image archiving networks) via DICOM gateways (Abstract and Introduction). One of ordinary skill in the art would have been so motivated to incorporate this modification into the aforementioned method so as to provide automated transfers of images between different institutions, thereby increasing the reliability of medical information access to remote locations (Wahle Conclusion). In addition, the references fail to explicitly disclose forwarding the network communications to a plurality of storage systems in parallel. Nonetheless, this modification to the medical image routing method would have been obvious to one of ordinary skill in the art at the time of the invention, as further evidenced by Fendick.

In an analogous art, Fendick discloses a method for simultaneous transmission of information to multiple destinations or "multicasting", (column 2, lines 50-56 and Figure 2). One of ordinary skill in the art would have been motivated to implement this modification into the aforementioned method in order to support the concurrent transmission of medical data to a plurality of

destinations (e.g. hospital areas, off-site facilities) , thereby increasing system flexibility and ease of use, (Schnellinger column 5, lines 30-48).

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haworth, Flaig, Tian, and Yang and further in view of Cawley (US Patent 5,361,334), hereinafter referred to as Cawley.

In reference to claim 17, Haworth, Flaig, Tian, and Yang fail to show a router further comprising computer-readable medium buffering the network communication in a ring buffer, wherein the storage manager software module and validation software module read the network communication from the ring buffer. Nonetheless, storing information in a ring buffer was well known in the art at the time of the invention, as further evidenced by Cawley. Therefore these limitations would have been an obvious modification to the aforementioned medical image routing method to one of ordinary skill in the art at the time of the invention.

In an analogous art, Cawley discloses a method for routing network communication (i.e. packets) that employs computer-readable ring buffers for receiving and storing the data. Subsequently the data is read from the buffer in order to forward this data to the intended destination (column 2, line 45 to column 3, line 14). One of ordinary skill in the art would have been motivated to incorporate a ring buffer in the aforementioned router, so as to prevent data

collision and gridlock during transmission, thereby increasing network efficiency (Cawley column 2, line 60-65 and column 3, lines 2-6).

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haworth, Flaig, Tian, and Yang and further in view of Johnson (US Patent 6,351,547), hereinafter referred to as Johnson.

In reference to claim 18, Haworth, Flaig, Tian, and Yang fail to show a router further wherein the non-pixel data comprises medical data and pixel data comprises medical images. Nonetheless, these limitations were well known in the art at the time of the invention, as further evidenced by Johnson. Therefore, this would have been an obvious modification to the aforementioned router.

In an analogous art, Johnson shows a method for formatting medical digital images to conform to communications standards in which pixel data comprises medical digitized images and non-pixel data comprises medical data (i.e. attribute information), (column 4, lines 24-36 and column 2, lines 9-15). One of ordinary skill in the art would have been motivated to accordingly modify the aforementioned method, so as to increase the speed and reliability of connecting medical imaging devices to remote locations via a network (Johnson column 5, lines 1-6).

In reference to claim 19, Haworth, Flaig, Tian, Yang and Johnson show the router wherein medical asset data comprises patient information, session information, and study information (Johnson column 4, lines 24-36).

In reference to claim 20, Haworth, Flaig, Tian, Yang and Johnson show the router wherein validating the non-pixel data comprises syntactically and semantically validating a number of DICOM tags within the non-pixel data (Tian column 5, line 65 to column 6, line 5 and Johnson column 4, lines 24-36 and column 2, lines 20-27).

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haworth, Flaig, Tian, and Yang further in view of Wahle (Secure Inter-Institutional Image Communication by using DICOM-DICOM Gateways-[retrieved IEEE database]), and further in view of Fendick (US Patent 6,252,857) , hereinafter referred to as Wahle and Fendick respectively.

In reference to claim 22, Haworth, Flaig, Tian, and Yang show substantial features of the claimed invention. However, the references do not show the router to further comprise forwarding the network communication to plurality of storage systems. Nonetheless, this would have been an obvious modification to the aforementioned method for one of ordinary skill in the art at the time of the invention, as further evidenced by Wahle.

In an analogous art, Wahle discloses a method for transporting network communications (i.e. medical images and patient related data) to various storage systems (i.e. inter-institutional image archiving networks) via DICOM gateways (Abstract and Introduction). One of ordinary skill in the art would have been so motivated to incorporate this modification into the aforementioned method so as

to provide automated transfers of images between different institutions, thereby increasing the reliability of medical information access to remote locations (Wahle Conclusion) . In addition, the reference fails to explicitly disclose forwarding the network communications to a plurality of storage systems in parallel. Nonetheless, this modification to the router would have been obvious to one of ordinary skill in the art at the time of the invention, as further evidenced by Fendick.

In an analogous art, Fendick discloses a method for simultaneous transmission of information to multiple destinations or "multicasting", (column 2, lines 50-56 and Figure 2). One of ordinary skill in the art would have been motivated to implement this modification into the aforementioned router in order to support the concurrent transmission of medical data to a plurality of destinations (e.g. hospital areas, off-site facilities) , thereby increasing system flexibility and ease of use, (Schnellinger column 5, lines 30-48).

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schnellinger and Fendick, as applied to the claims above, and further in view of Wahle (Secure Inter-Institutional Image Communication by using DICOM-DICOM Gateways-[retrieved IEEE database]), , hereinafter referred to as Wahle.

In reference to claim 24, Schnellinger and Fendick show the Autorouter method wherein selecting a plurality of routes comprises selecting routes to a plurality of destinations in parallel , (Schnellinger column 3, lines 10-45 and

Fendick column 2, lines 50-56). However, the references do not explicitly show the plurality of destinations as a plurality of archive systems. Nonetheless, this would have been an obvious modification to the aforementioned Autorouter method for one of ordinary skill in the art at the time of the invention, as further evidenced by Wahle.

In an analogous art, Wahle discloses a method for transporting network communications (i.e. medical images and patient related data) to various inter-institutional image archiving systems via DICOM gateways (Abstract and Introduction). One of ordinary skill in the art would have been so motivated to incorporate this modification into the aforementioned method so as to provide automated transfers of images between different institutions, thereby increasing the reliability of medical information access to remote locations (Wahle Conclusion) .

Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnellinger and Fendick, as applied to the claims above, and further in view of Cooke, Jr. et al. (US Patent 6,574,629), hereinafter referred to as Cooke.

In reference to claim 26 and 28, Schnellinger and Cooke show substantial features of the claimed invention, specifically the Autorouter method wherein: the network comprises a medical imaging network (i.e. PACS) [claim 25], (Schnellinger column 1, line 61 to column 2, line 20 and column 3, line 59 to column 4, line 13); and comparing at least a portion of the medical asset data

comprises parsing the medical asset data [claim 28], (Schnellinger column 7, line 62 to column 8, line 3). However, the references fail to show the method wherein: the network communication complies with the DICOM protocol [claims 26 and 28], and further wherein storing routing information comprises storing routing information mapping Application Entity Names to routes within the medical imaging network [claim 26]; and to identify a set of DICOM tags and corresponding data [claim 28]; and assessing a routing rule from the set of routing rules based on the DICOM tags and corresponding data, [claim 28]. Nonetheless, these limitations would have been obvious modifications to the aforementioned Autorouting system to one of ordinary skill in the art at the time of the invention, as further evidenced by Cooke.

In an analogous art, Cooke shows a picture archiving and communication method that involves routing network communications complying with the DICOM format according to predetermined routing information (i.e. rules), (column 2, lines 14-44 and column 5, line 65 to column 6, line 25). This predetermined routing information maps Application Entity Names (i.e. modality) to routes within the network, (column 2, lines 45-56). In addition, Cooke shows identify a set of DICOM tags and corresponding data; and assessing a routing rule from the set of routing rules based on the DICOM tags and corresponding data, (column 9, line 65 to column 10, line 50 and column 17, line 60 to column 18, line 50). One of ordinary skill in the art would have been so motivated to implement this modification to the aforementioned Autorouting method in order to

"enhance the overall efficiency of the system, and which makes the system more user-friendly", (Cooke column 2, lines 5-10).

In reference to claim 27, Schnellinger, Fendick, and Cooke show the Autorouting method wherein selecting a plurality of routes from the routing information comprises comparing an Application Entity Name to routes within the medical network, (Schnellinger column 3, lines 20-45; column 4, lines 59-63; and Cooke column 15, line 55 to column 16, line 65).

Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schnellinger and Fendick, as applied to the claims above, and further in view of Martin et al. (US Patent 6,532,455), hereinafter referred to as Martin

In reference to claim 29, Schnellinger and Fendick show the Autorouting method wherein storing a set of rules conform to a user-defined grammar (i.e. Multiple Autorouter Rule) for routing the medical asset data, (Schnellinger column 4, lines 6-39). However the references fail to show XML-based set of rules. Nonetheless, this would have been an obvious modification to the aforementioned Autorouter method to one of ordinary skill in the art at the time of the invention, as further evidenced by Martin.

Martin shows a method for content-based document routing that employs a rule engine defined in XML format, (column 1, lines 35-57 and column 2, lines 30-36). One of ordinary skill in the art would have been so motivated to

implement this modification into the Autorouting method so as to implement user-defined routing mechanisms, thereby increasing the system efficiency and ease of use (Martin column 2, lines 15-23).

In reference to claim 30, Schnellinger and Fendick show the Autorouter method to further comprise presenting an interface for receiving user input that defines the user-defined grammar, (Schnellinger column 4, lines 34-39) .

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShanya R Nash whose telephone number is (703) 305-8910. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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